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REMARKS/ARGUMENTS

1. Claim rejections based on 35 U.S.C. 112

a) Claims 1-7 are rejected as failing to define the invention in a manner required by 35 U.S.C. 112, second paragraph. The claims are replete with indefinite and functional or operational language.

b) The claims are also rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example, claim 1, line number 5, stated "to the pure hardware". The subject of "the" was not mentioned previously in the claim.

c) The claims are also rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example, claim 1, lines number 3 and 8, stated "the said". This is unclear.

Response

Claims 1-7 have been amended in an effort to fully comply with all aspects of 35 U.S.C. 112 as required. Structure of the device is now clearly claimed, antecedent irregularities have been removed, and instances of "the said" have been replaced with "the". Reconsideration of the amended claims 1-7 under U.S.C. 112 is respectfully requested.

2. Claim rejections based on prior art

a) Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Falik et al. (US pat. 5,964,853).

b) Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Falik et al. in view of Thayer et al. (US pat. 5,381,530).

c) Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falik et al.

Response

The instant invention provides a keyboard controller that includes a command filtering circuitry to parse incoming signals and to distribute them to either a hardware circuitry or to a micro-controller unit, whichever is applicable for the particular kind of incoming signal (Paragraph [0011] as published). The command filtering circuitry comprises a plurality of switches, with each kind of data and command corresponding to separate switches (Paragraphs [0013], [0014]). By judicial use of the switches, hardware (circuitry) routing of the incoming signal is performed. By routing data and standard commands to the pure hardware circuitry and routing only commands requiring additional operations to the micro-controller for processing (paragraph [0014]), operational speed is increased, costs are reduced by requiring less complicated firmware, and the operational load of the micro-controller is reduced, which in turn enables either use of a less powerful (and cheaper) micro-controller, or enables use of freed micro-controller duty cycles to be used for other tasks possibly not related to command/data processing.

On the other hand, Falik discloses "Commands from a host processor (e.g., as discussed above in the Background, an 80286 or 80386 microprocessor) are handled by a control processor 101 executing firmware (or software) stored in a memory 102" (Col.3, lines 1-5). "FIG. 2 is a flowchart illustrating the process 200 of the firmware 102, in accordance with a preferred embodiment of the invention, for handling commands from the host processor. In particular, the FORCE-20 (also called "GA20") and RESET commands are handled by the controller processor 101 before any other commands, thus reducing the latency and overhead in handling these commands." (Col.3, lines 39-45).

Thus, it is clear that in the teachings of Falik, the microcontroller 101 executing software stored in the firmware 102, whether they comprise data, standard commands, or any other commands, parses and handles all signals.

Therefore, the applicant asserts that the reference fails to anticipate the claims at least because the claims state that incoming signals are parsed, not the a microprocessor, but by a command filtering circuitry into data, standard commands, and predetermined commands that require additional operations, and only the predetermined commands that require additional operations are handled by the micro-controller unit (paragraph [0014]). This particular inventive form of signal parsing and routing provides the speed and cost advantages over the prior art that have been previously stated.

Additionally, if properly understood, the Examiner is likening the functioning of Falik's control processor 101 to the instant invention's command filtering circuitry because they both parse the incoming signal. Even if this viewpoint ,with which the applicant disagrees, is correct, Falik fails to anticipate the claim limitations of "a command filtering circuitry coupled between the computer host interface and a pure hardware circuitry and also coupled between the computer host interface and a micro-controller unit". At best, Falik only teaches a microprocessor couple to the host interface and to a memory.

Falik simply does not teach, neither structurally or functionally, a command filtering circuitry as claimed.

For at least the foregoing reasons, the applicant asserts that the present invention as currently claimed represents novel and useful features over known prior art alone or in combination, and respectfully requests reconsideration of claims 1-7.

Sincerely yours,

/ Winston Hsu /

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